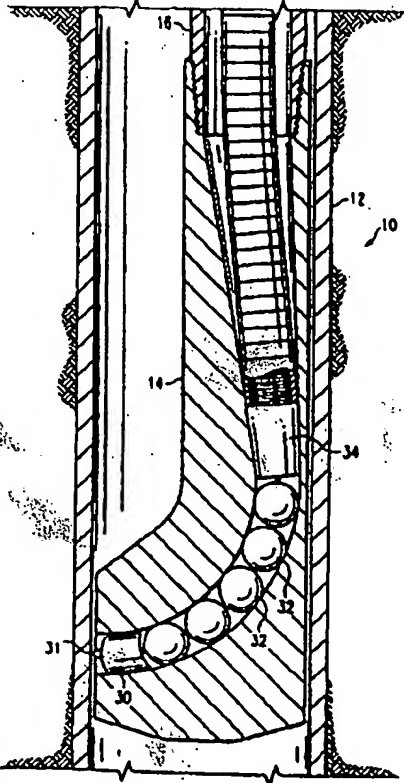


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<p>(51) International Patent Classification 7 : E21B 7/08</p>	<p>A1</p>	<p>(11) International Publication Number: WO 00/50727 (43) International Publication Date: 31 August 2000 (31.08.00)</p>
<p>(21) International Application Number: PCT/US00/04332 (22) International Filing Date: 18 February 2000 (18.02.00) (30) Priority Data: 09/256,322 23 February 1999 (23.02.99) US (71) Applicant: LTI JOINT VENTURES (US/US); 3610 Highway 158 East, Midland, TX 79702 (US). (72) Inventors: BELEW, David, A.; 2314 South County Road 1120; Midland, TX 79706 (US). BELEW, Barry; 4223 Clover Street, Odessa, TX 79762 (US). (74) Agent: JUDSON, David, H.; Hughes & Luce, L.L.P., Street 2800, 1717 Main Street, Dallas, TX 75210 (US).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published With international search report.</p>
<p>(54) Title: HORIZONTAL DRILLING METHOD AND APPARATUS</p>		
<p>(57) Abstract</p> <p>The objects of the invention are provided using a method for horizontal drilling in which a shoe (14) having an elbow-shaped cavity (20), therein is lowered to a selected point. An explosive charge (30) is placed at the far end of the shoe (14) adjacent to the well casing (12). Impact transferring means (32) are positioned between the explosive charge (30) and the vertical portion of the well above the shoe (14). An impact is struck on the surface of the transfer means (32) to cause an impact-type detonator (31) to discharge, causing the explosive charge (30) to discharge. This perforates the casing (12) of the well at the tip of the shoe (14). The shoe (14) and the tubing (16) above it are then cleared and a hydraulic drilling device (64) is inserted into the shoe (14). The shoe (14) guides the hydraulic drilling device (64) into place and high pressure liquid is pumped through the hydraulic device (64) which extends through the perforation in the well casing into the earth's strata.</p> 		

INTERNATIONAL SEARCH REPORT

Internat. Appl. No.

PCT/EP 00/00791

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	METCALFE P: "EXPANDABLE SLOTTED TUBES OFFER WELL DESIGN BENEFITS" PETROLEUM ENGINEER INTERNATIONAL, vol. 69, no. 10, 1 October 1996 (1996-10-01); pages 60-63, XP000684479 figure 4	1,4,8
A	WO 98 00626 A (SHELL INT RESEARCH ;SHELL CANADA LTD (CA)) 8 January 1998 (1998-01-08) claims 1,15; figure 1	2,3
A	US 5 435 400 A (SMITH MICHAEL B) 25 July 1995 (1995-07-25) column 3, line 18 - line 25	2,3
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A	WO 98 49423 A (SHELL CANADA LTD ;SHELL INT RESEARCH (NL)) 5 November 1998 (1998-11-05) claim 1; figures 1-3	5

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E21B43/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 310 215 A (ATLANTIC RICHFIELD CO) 5 April 1989 (1989-04-05) column 8, line 2 - line 29; figure 2	1
Y	US 5 348 095 A (WORRALL ROBERT N ET AL) 20 September 1994 (1994-09-20) column 1, line 46 - column 2, line 8; figures 6,7	1,9-11
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